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EXAMINER

PASTERCZYK, JAMES W

ART UNIT

PAPER NUMBER

1755

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22

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No. 09/359,359 Applicant(s) Matyjaszewski et al.  
Examiner J. Pasterczyk Art Unit 1755



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

1)  Responsive to communication(s) filed on Apr 14, 2003

2a)  This action is FINAL. 2b)  This action is non-final.

3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

### Disposition of Claims

4)  Claim(s) 81-124 is/are pending in the application.

4a) Of the above, claim(s) 81-90, 96-99, 111-118, and 124 is/are withdrawn from consideration.

5)  Claim(s) \_\_\_\_\_ is/are allowed.

6)  Claim(s) 91-95, 100-110, and 119-123 is/are rejected.

7)  Claim(s) \_\_\_\_\_ is/are objected to.

8)  Claims 81-124 are subject to restriction and/or election requirement.

### Application Papers

9)  The specification is objected to by the Examiner.

10)  The drawing(s) filed on \_\_\_\_\_ is/are a)  accepted or b)  objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)  The proposed drawing correction filed on \_\_\_\_\_ is: a)  approved b)  disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.

12)  The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

13)  Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)  All b)  Some\* c)  None of:

1.  Certified copies of the priority documents have been received.
2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\*See the attached detailed Office action for a list of the certified copies not received.

14)  Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

a)  The translation of the foreign language provisional application has been received.

15)  Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

1)  Notice of References Cited (PTO-892) 4)  Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_

2)  Notice of Draftsperson's Patent Drawing Review (PTO-948) 5)  Notice of Informal Patent Application (PTO-152)

3)  Information Disclosure Statement(s) (PTO-1449) Paper No(s). \_\_\_\_\_ 6)  Other: \_\_\_\_\_

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1. This Office action is in response to the election and amendment filed 4/14/03.
2. In response to applicants' request to rejoin non-elected claims 91-95, 100-107, 109 and 110 to the elected claims 119-123, this is appropriate given the amendments made to the claims, though claim 108 is also rejoined since claim 109 depends from it and the proper response to a restriction and election normally does not include amendment to the claims since this could affect the scope of the claims, necessitating a new restriction and election in an endless cycle.
3. Claims 91-95, 100-110 and 119-123 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification, including the examples, does not appear to adequately describe block polymers or copolymers having bonded thereto initiators for free radical polymerization. Instead, the specification and all the examples appear to be drawn to free radical polymerization initiators comprising either common inorganic molecules or fairly conventional organic free radical polymerization initiators used alone or in combination to polymerize conventional monomers into conventional, albeit heretofore difficult to obtain, block copolymers. The current claims, unless they are merely to mixtures of the polymer and the initiator, which would be obvious and thus conventional in the art, appear to require that the polymer block be chemically bonded to the initiator.
4. Claims 91-95, 100-110 and 119-123 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to

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enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. As noted above in paragraph 3, the specification does not appear to adequately disclose how to make block copolymers or polymers having free radical initiators bonded to them, instead being drawn to the use of conventional simple free radical initiators in the polymerization of conventional monomers into conventional, albeit heretofore difficult to obtain, block copolymers.

5. Claims 91-95, 100-110 and 119-123 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 91, it is not clear what is meant by "derived from" since no number of step or chemical procedure is specified, the correct spelling is --substituent--, and "a free radically transferable atom or group" is considered to be functional language without sufficient structure to clearly define what is actually covered by the recitation. It is also not clear what the relationship is between the polymer block and the free radically transferable atom or group; are they chemically bonded to each other, or is this a mechanical mixture?

Claim 92 contains primarily process limitations, hence it is not clear how this can further limit the composition of claim 91.

Claim 93 recites that claim 92 from which it depends is a process claim, when both these claims and claim 91 from which both ultimately depend are composition claims.

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In claim 94, it is not clear what is meant by "derived from", and "a free radically transferable atom or group" is considered to be functional language without sufficient structure to clearly define what is actually covered by the recitation. It is also not clear what the relationship is between the polymer block and the free radically transferable atom or group; are they chemically bonded to each other, or is this a mechanical mixture?

In claim 95, it is not clear what is meant by "based" in the first line or "derived from" in the third line, and "a free radically transferable atom or group" is considered to be functional language without sufficient structure to clearly define what is actually covered by the recitation. It is also not clear what the relationship is between the polymer block and the free radically transferable atom or group; are they chemically bonded to each other, or is this a mechanical mixture?

In claim 100, it is not clear what is meant by "derived from" or "transfer agent", and "a free radically transferable atom or group" is considered to be functional language without sufficient structure to clearly define what is actually covered by the recitation. It is also not clear what the relationship is between the polymer block and the free radically transferable atom or group; are they chemically bonded to each other, or is this a mechanical mixture?

In claim 101, it is not clear what is meant by "derived from" or "transfer agent", and "a free radically transferable atom or group" is considered to be functional language without sufficient structure to clearly define what is actually covered by the recitation. It is also not clear

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what the relationship is between the polymer block and the free radically transferable atom or group; are they chemically bonded to each other, or is this a mechanical mixture?

In claim 102, it is not clear what is meant by “derived from”, and “a free radically transferable atom or group” is considered to be functional language without sufficient structure to clearly define what is actually covered by the recitation. It is also not clear what the relationship is between the polymer block and the free radically transferable atom or group; are they chemically bonded to each other, or is this a mechanical mixture?

In claim 103, it is not clear what is meant by “derived from”, and “a free radically transferable atom or group” is considered to be functional language without sufficient structure to clearly define what is actually covered by the recitation. It is also not clear what the relationship is between the polymer block and the free radically transferable atom or group; are they chemically bonded to each other, or is this a mechanical mixture? The singular of “termini” is -- terminus-- which should be used here since there is only one.

In claim 104, “a free radically transferable atom or group” is considered to be functional language without sufficient structure to clearly define what is actually covered by the recitation. It is also not clear what the relationship is between the polymer block and the free radically transferable atom or group; are they chemically bonded to each other, or is this a mechanical mixture?

In claim 106, it is not clear what is meant by “derived from”, and “a free radically transferable atom or group” is considered to be functional language without sufficient structure to

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clearly define what is actually covered by the recitation. It is also not clear what the relationship is between the polymer block and the free radically transferable atom or group; are they chemically bonded to each other, or is this a mechanical mixture? The use of the term "residing on" suggests but does not require chemical bonding between the two.

In claim 107, it is not clear what is meant by "derived from", and "a free radically transferable atom or group" is considered to be functional language without sufficient structure to clearly define what is actually covered by the recitation. It is also not clear what the relationship is between the polymer block and the free radically transferable atom or group; are they chemically bonded to each other, or is this a mechanical mixture? In the last line "of" should be -- or--.

In claim 108, it is not clear what is meant by "derived from", and "a free radically transferable atom or group" is considered to be functional language without sufficient structure to clearly define what is actually covered by the recitation. It is also not clear what the relationship is between the polymer block and the free radically transferable atom or group; are they chemically bonded to each other, or is this a mechanical mixture? In l. 4 "a functional group" is functional language without sufficient structure to clearly define what is actually covered by the recitation.

In claim 109, it is not clear what is meant by "derived from", and "a free radically transferable atom or group" is considered to be functional language without sufficient structure to clearly define what is actually covered by the recitation. It is also not clear what the relationship

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is between the polymer block and the free radically transferable atom or group; are they chemically bonded to each other, or is this a mechanical mixture? In l. 2 "for form" should be either --to form-- or preferably --for forming--.

In claim 110, "radically transferable group" and "atom or group" are functional language. The "wherein" clause does not limit the multifunctional initiator at all, instead limiting the block copolymer that can be made with the initiator, hence it fails to further limit the initiator. In the last line "that can be converted to" fails to further limit since nearly anything can be converted to nearly anything else given sufficient time, steps and reagents.

In claim 119, l. 2, change "comprises" to --comprising--, start l. 4 with --and--, and in the last two lines "the convention free radical polymerization initiator group" lacks antecedent basis. It is also not known what is meant by a "convention" free radical polymerization initiator group, or a "conventional" one for that matter.

In claim 120, "radically polymerizable monomers" and "free radical polymerization initiation group" are both functional language.

In claim 121 it is not clear what is meant by "derived from"; how many step are involved? What reagents are required?

Claim 122 contains primarily functional language since "capable of" is subject to more than one interpretation. It is also not clear what is meant by "derived from".

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In claim 123, it is not clear what is meant by "derived from", "other radically polymerizable monomers" is omnibus, and "capable of" is subject to plural interpretations and functional.

6. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

7. Claims 91-95, 100-110, and 119-123 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-11 of U.S. Patent No. 6,538,091. Although the conflicting claims are not identical, they are not patentably distinct from

*Repat.,  
It is hereby  
acknowledged that  
the present application  
contains claims*

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each other because the present claims are either compounds or mixtures of compounds, while the patented claims are clearly compounds.

8. The divisional ancestry of the present case should be updated to reflect that the patent cited in the above paragraph was itself an offspring of an issued patent.

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 91-95, 100-110, and 119-123 are rejected under 35 U.S.C. 103(a) as being unpatentable over any of Narayanan et al., USP 5,510,307 (hereafter referred to as Narayanan), Matyjaszewski et al., USP 5,763,548 (hereafter referred to as Matyjaszewski I), Matyjaszewski et al., USP 5,789,487 (hereafter referred to as Matyjaszewski II), and Matyjaszewski et al., USP 5,807,937 (hereafter referred to as Matyjaszewski III).

Narayanan discloses a composition made from reagents reading on the present claims in a manner similar to that of the present specification (abstract; col. 2, l. 1-19, l. 50-60).

Matyjaszewski I discloses a copolymer having radical initiators in its polymeric structure (col. 8, l. 45 to col. 9, l. 20; cols. 15-16). Matyjaszewski II and III have essentially the same disclosures (II: col. 1, l. 40; col. 9, l. 27-40; col. 14-17. III: col. 17, l. 23-33; col. 25, l. 38-40; col. 26, l. 5-25; col. 27, top; col. 28, top; col. 29, l. 7-28; col. 33, l. 1-18).

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None of the references specifically discloses the compounds (or is it mixtures?) as recited in the present claims.

However, given the broad and vague language of the present claims it appears as if the prior art at least teaches the present invention.

It would have been obvious to one of ordinary skill in the art to apply that skill to the disclosures of any of the items of prior art with a reasonable expectation of obtaining a highly-useful polymeric free radical initiation catalyst with the expected benefit of the catalyst being easily removable from the reaction medium.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to J. Pasterczyk whose telephone number is (703) 308-3497. The examiner can normally be reached on M-F from 9 to 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Bell, can be reached on (703) 308-3823. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9310 for normal faxes, 872-9311 for after final faxes.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

  
J. Pasterczyk

5/16/03

  
Mark L. Bell  
Supervisory Patent Examiner  
Technology Center 1700